AMENDMENTS TO THE CLAIMS

1. (Original)   A method of determining a capability of at least one communication facility to pass network layer protocol packets with a particular characteristic between a first network layer protocol process and a second network layer protocol process, the method comprising the steps of:

detecting whether at least one first network layer protocol packet has been received, the at least one first network layer protocol packet comprising first information with the particular characteristic, the first information being capable of causing at least one filtering/forwarding entity not to pass the at least one first network layer protocol packet; and

determining the capability of the at least one communication facility to pass the network layer protocol packets with the particular characteristic.

2. (Original)   The method of claim 1, wherein, upon detecting that the at least one first network protocol packet has been received, the at least one communication facility is determined not to comprise the at least one filtering/forwarding entity and is determined to be capable of passing the network layer protocol packets with the particular characteristic.

3. (Original)   The method of claim 1, wherein, upon detecting that the at least one first network protocol packet is no longer expected to be received, the at least one communication facility is determined to comprise the at least one filtering/forwarding entity and is determined not to be capable of passing the network layer protocol packets with the particular characteristic.

4. (Cancelled)5. (Original)   The method of claim 1, wherein the particular characteristic comprises a destination network layer address that is outside of a network address realm comprising network layer addresses of network layer protocol packets that would be forwarded by the at least one filtering/forwarding entity.

6. (Original)   The method of claim 5, wherein the at least one filtering/forwarding entity is at least one network layer router that operates as a peer protocol layer entity to the at least one first network layer protocol process and the at least one second network layer protocol process.

7-9. (Cancelled)

10. (Currently Amended)   The method of claim [[9]] 1, wherein the step of determining that the at least one first network layer protocol packet process is not expected to be has been received further comprises the steps of:

starting a timeout counter associated with transmitting at least one second network layer protocol packet;

detecting expiration of the timeout counter without having received the at least one first network layer protocol packet.

11. (Currently Amended)   The method of claim [[9]] 1, wherein the step of determining that the at least one first network layer protocol packet process is not expected to be has been received further comprises the step of:

receiving a control message indicating that the at least one first network layer protocol packet was not passed through the at least one communication facilities.

12. (Cancelled)

13. (Currently Amended)   The method of claim [[12]] 11, wherein the control ICMP message is at least one of: [[a]] an ICMP destination unreachable message, [[a]] an ICMP time exceeded message, [[a]] an ICMP parameter problem message, [[a]] an ICMP source-quench message, and [[a]] an ICMP redirect message.

14-16 (Cancelled)

17. (Original) The method of claim 1, wherein determining that the at least one communication facility passes network layer protocol packets with the particular characteristic implies that the at least one communication facility does not utilize routing at a peer protocol layer to the first network layer process and the second network layer process.

18. (Original) The method of claim 17, wherein the at least one communication facility provides services below the first network protocol layer process and the second protocol layer process that establish a one-to-one association between the first network protocol layer process and the second network protocol layer process.

19. (Original) The method of claim 18, wherein the services provided by the network are connection-oriented services that establish the one-to-one association.

20. (Original) The method of claim 19, wherein the connection-oriented services are circuit-switching services.

21. (Original) The method of claim 19, wherein the connection-oriented services are connection-oriented packet-switching services.

22. (Original) The method of claim 21, wherein the connection-oriented packet-switching services are layer two services.

23. (Cancelled)

24. (Original) The method of claim 18, wherein the one-to-one association is established by a tunneling protocol that encapsulates the network protocol packets.

25-26. (Cancelled)

27. (Original) The method of claim 1, wherein determining that the at least one communication facility does not pass network layer protocol packets with the particular characteristic implies that the network utilizes routing at a peer protocol layer to the first network layer process and the second network layer process.

28. (Original) The method of claim 27, wherein determining that the network utilizes routing implies that the network has at least a layer three network core.

29. (Original) A system to determine a capability of at least one communication facility to pass network layer protocol packets with a particular characteristic between a first network layer protocol process and a second network layer protocol process, the method comprising the steps of:

first logic configured to detect whether at least one first network layer protocol packet has been received, the at least one first network layer protocol packet comprising first information with the particular characteristic, the first information being capable of causing at least one filtering/forwarding entity to not pass the at least one first network layer protocol packet; and

second logic configured to determine the capability of the at least one communication facility to pass the network layer protocol packets with the particular characteristic.

30. (Original) The system of claim 29, wherein based at least upon the first logic detecting that the at least one first network protocol packet has been received, the at least one communication facility is determined not to comprise the at least one filtering/forwarding entity and is determined to be capable of passing the network layer protocol packets with the particular characteristic.

31. (Original) The system of claim 29, wherein based at least upon the first logic detecting that the at least one first network protocol packet is no longer expected to be received,

the at least one communication facility is determined to comprise the at least one

filtering/forwarding entity and is determined to not be capable of passing the network layer

protocol packets with the particular characteristic.

32. (Original) The system of claim 29, further comprising the step of:

logic configured to transmit at least one second network layer protocol packet

comprising second information with the particular characteristic, the second information being

capable of causing at least one filtering/forwarding entity to not pass the at least one second

network layer protocol packet.

33. (Original) The system of claim 29, wherein the particular characteristic comprises a

destination network layer address that is outside of a network address realm comprising

network layer addresses of network layer protocol packets that would be forwarded by the at

least one filtering/forwarding entity.

34. (Original) The system of claim 31, wherein the at least one filtering/forwarding entity

is at least one network layer router that operates as a peer protocol layer entity to the at least

one first network layer protocol process and the at least one second network layer protocol

process.

35. (Original) The system of claim 32, wherein the at least one first network layer

protocol process is an internet protocol (IP) process, wherein the at least one second network

layer protocol process is an internet protocol (IP) process, and the at least one network layer

router is at least one internet protocol (IP) router.

36. (New)   A method of determining a capability of a communication facility to pass

certain network layer packets between a first network layer protocol entity and a second network

layer protocol entity, the method comprising the steps of:

detecting reception of a network layer packet having information with a particular characteristic, the information causing a filtering/forwarding entity to block the network layer packet from passage through the entity; and

determining that the communication facility has a capability of passing network layer packets with the particular characteristic, upon detecting that the network layer packet having information with the particular characteristic has been received; and

determining that the communication facility has no capability of passing the network layer packets with the particular characteristic, upon detecting that the network layer packet having information with the particular characteristic is no longer expected to be received.

37. (New)   The method of claim 36, wherein the information comprises a destination network address and the particular characteristic comprises the destination network layer address being outside of a network address realm, the network address realm including network layer addresses of network layer packets that would be forwarded by the filtering/forwarding entity.

38. (New)   The method of claim 36, wherein the filtering/forwarding entity is a network layer router operating as a peer protocol layer entity to the first network layer protocol entity and to the network layer protocol entity.

39. (New)   The method of claim 36, wherein the method is performed by a test endpoint.

40. (New)   The method of claim 36, further comprising:

transmitting a second network layer packet having information with the particular characteristic, the information causing the filtering/forwarding entity to block the second network layer packet from passage through the entity.

41. (New)   The method of claim 36, further comprising:

determining that the communication facility does not utilize routing at a peer protocol

layer to the first network layer entity and the second network layer entity, in response to

determining that the communication facility has a capability of passing network layer packets

with the particular characteristic.

42. (New)   The method of claim 36, further comprising:

determining that the network utilizes routing at a peer protocol layer to the first network

layer entity and the second network layer entity, in response to determining that the

communication facility has no capability of passing network layer packets with the particular

characteristic.

43. (New)   The method of claim 42, further comprising:

determining that the network has at least a layer three network core, in response to

determining that the network utilizes routing at a peer protocol layer to the first network layer

entity and the second network layer entity.

44. (New)   The method of claim 36, wherein detecting that the network layer packet

is no longer expected to be received received further comprises the steps of:

starting a timeout counter associated with transmitting a second network layer packet;

and

detecting expiration of the timeout counter without having received the network layer

packet.

45. (New)   The method of claim 36, wherein detecting that the network layer packet

is no longer expected to be received received further comprises the steps of:

receiving a control message indicating that the network layer packet was not passed

through the communication facility.

46. (New)   The method of claim 36, wherein detecting that the network layer packet is no longer expected to be received received further comprises the steps of:

receiving an ICMP control message indicating that the network layer packet was not passed through the communication facility.